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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,344

03/10/2005

Yong Chang

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2619

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/527,344	Applicant(s) CHANG, YONG	
	Examiner Jeffrey M. Rutkowski	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/10/2005</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. **Claims 5, 12 and 20** are objected to because of the following informalities: it appears there is a typographical error in the claim language it looks like the applicant meant to use the word "convert" instead of "covert". Appropriate correction is required.
4. **Claim 15** is objected to because it appears the applicant may have meant the claim to be dependent from **claim 8**, instead of **claim 1**.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 4, 11 and 19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear from the claim language whether the time for determining is previously determined or if the mode conversion is previously determined. The examiner has interpreted the claim to mean the mode conversion is previously determined.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1, 4, 8, 11, 13, 16, 19 and 21** are rejected under 35 U.S.C. 102(e) as being anticipated by Gao (US Pg Pub 2003/0076793).

9. For **claims 1, 4, 8, 11, 16 and 19**, Gao teaches a robust vocoder rate control in a packet network [title, figures 1 and 2]. A Base Station Controller 22 (BSC) determines whether there is signaling information for a mobile station 12. If there is signaling information (a time for determining mode conversion), the BSC 22 determines a rate constraint value and a frame count. The BSC 22 then sends a control message (mode conversion request), which contains the rate constraint value and the frame count, to a media gateway 26 [0034-0035, figure 3A]. The rate

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constraint (CR) value is made up of two bits representing one of four predetermined coding rates (transmission mode) to be used by the vocoder [0036, figure 5B]. Additionally, packet acknowledgement schemes could be used in Gao's invention but are not necessary [0030].

10. For claims 13 and 21, Gao teaches the media gateway 26 constrains voice frame rates for a mobile station 12 based upon the control message. This teaching anticipates the step of checking an identity since the media gateway 26 needs to know which mobile station 12 needs to have the voice frame rate constrained.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claim 2-3, 5, 9-10, 12, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao in view of Bienn et al. (US Pg Pub 2003/0169729), hereinafter referred to as Bienn.

14. For **claims 2-3, 9-10 and 17-18**, Gao teaches voice frames are carried between a radio packet network and a Public Switched Telephone Network (PSTN) **[figure 1]**. Gao's invention makes use of in-band signaling between the BSC 22 and the media gateway 26 to control the encoding rate for a given number of frames **[0006-0008 and figure 5A]**. The signaling protocol used in Gao's invention is essentially the same as an Amp frame because both are used to control the coding rate of a vocoder.

15. Gao does not teach the use of Session Initiation Protocol (SIP) or Real-time Transport Protocol (RTP). Bienn teaches the SIP and RTP limitations absent from the teachings of Gao by disclosing the use of SIP and RTP in an environment where voice frames are carried over a PSTN and radio packet network **[0047 and figure 3]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use A2p frames in Gao's invention to deliver enhanced voice services at the application layer of the Open Systems Interconnect (OSI) model.

16. Gao also does not teach the use of out-of-band signaling. Bienn teaches the out-of-band signaling limitation absent from the teachings of Gao by disclosing the use of a bearer interface, yy, for packet switched information and a separate signaling control interface, zz, for the yy bearer interface **[0038-0039]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use out-of-band signaling in Gao's invention to make sure control information does not degrade voice quality by using bandwidth needed to transmit voice traffic.

17. For **claims 5, 12 and 20**, Gao does not teach the use of a Mobile Switching Center emulator (MSCe). Bienn teaches the MSCe limitation absent from the teachings of Gao by disclosing a radio network that uses an MSCe **[figure 1]**. Figure 1 also shows an out-of-band

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signaling management scheme is used for communications between the different MSC emulators. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a MSCe in Gao's invention to map routing information between packet-switched and circuit-switched data [Bienn, 0021].

18. **Claims 6-7, 15 and 23** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Gao in views of Yallapragada et al. ("Increments in Voice Capacity and Impact on Voice Quality with New Vocoders in GSM and CDMA systems").

19. For **claim 6**, Gao teaches that by using less encoding, a higher voice quality is achieved [0024]. Gao's teaching is primarily focused on quality and not system capacity. Yallapragada expands the teachings of Gao by disclosing the choice of a SMV mode adjusts the capacity capability of a system [page 104, table 2]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the criterion of a predetermined number of call connection tries of subscribers, a power control status of a corresponding base station, and a handoff of a mobile station in Gao's invention to adjust the user capacity of a communication system.

20. For **claims 7, 15 and 23**, Gao teaches the use of a vocoder [figure 2]. However, Gao does not disclose if the vocoder is a Selective Mode Vocoder (SMV). Yallapragada teaches the SMV limitation absent from the teachings of Gao by disclosing the use of an SMV in a Code Division Multiple Access (CDMA) 2000 architecture [page 103, section 5.0]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use an SMV

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vocoder in Gao's invention to increase capacity and quality in the communications system

**[Yallapragada, page 103, Section 5.0, 1<sup>st</sup> sentence].**

21. **Claims 14 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao in view of Farley et al. (US Pg Pub 2002/0101839), hereinafter referred to as Farley.

22. For **claims 14 and 22**, Gao does not teach the use of a Cyclic Redundancy Check (CRC). Farley teaches the CRC limitation absent from the teachings of Gao by disclosing a CRC is used for error-checking purposes **[0104]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a CRC in Gao's invention to make sure information received in the wireless network was not corrupted.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571) 270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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01/04/2008

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